

Keeping a promise of quality

Wooden Bakery of Lebanon has maintained the product quality its customers are accustomed to, throughout several, sometimes overlapping challenges over the years. To cope with the latest struggles due to material availability, the use of flour and dough rheology technologies has helped the business manage flour quality.

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+ Most of the world's iconic brands share one crucial characteristic: adaptability – being able to adapt their methods to persevere through hardships, while keeping a promise to produce the best possible products.

The people of Lebanon have certainly faced their share of challenges over the last few decades. However, they have still experienced notable events in the past few years. Between the country's current economic crisis, which began to take hold in 2019, compounded with the explosion at the Port of Beirut in 2020 – all while wading through lockdowns and anxieties brought upon by the COVID-19 pandemic – Lebanon has managed to demonstrate resiliency through turbulent times.

The struggles do not end there for bakeries in Lebanon and throughout the Middle East. The war in Ukraine has made operations even more difficult, as the two countries in conflict are their leading wheat exporters, making flour much more challenging to acquire. However, Wooden Bakery has flourished in the face of adversity and maintained its product quality.

This is Wooden Bakery

Founded in 1969 in Jal El Dib, Lebanon, Wooden Bakery is a family-owned business that has become one of the most recognizable bakery brands throughout the Middle East. From humble beginnings, Wooden Bakery has revolutionized the industry in the region by setting new standards as it has continuously upgraded its products and services. Wooden Bakery has expanded to over 50 locations in Lebanon and opened an overseas Master Franchise Operation in Saudi Arabia. They also have international

operations in Qatar, the United Arab Emirates, and Kuwait, with plans to open in Iraq. Its products include traditional breads, flatbreads and cakes native to the Middle East, as well as French breads and Viennese pastries.

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Jessica Bitar, Total Quality Manager, Wooden Bakery

According to Jessica Bitar, Total Quality Manager for Wooden Bakery, the company's emphasis on consistently providing top-quality baked products contributes greatly to their success. Technology has helped them to achieve this, including the flour and dough analysis instrument in the quality control lab. “Each of our products requires a specific formulation of flour based on various aspects, including protein, ash content, wet gluten, and others,” says Bitar. “This can be a challenge given the availability of flour to our region and because flour quality can vary significantly with each delivery.”

Rheological analysis

Wooden Bakery acquired its universal dough characterization tool, the CHOPIN Technologies Mixolab 2, in 2012. It can take a small flour sample (50 g) and output a data



Despite wheat shortages, Wooden Bakery ensures the quality of its baked goods by using technology and working closely with its millers

curve, or 'profile', in about 45 minutes. This profile includes data on a flour's water absorption capacity, mixing behavior and amylase activity, while providing insights on product shelf life.

The instrument simulates the processes a dough undergoes during the production process, helping the quality team gain a clearer idea of flour quality, Bitar explains. "Over the years, and with the support of Hasan Shaib of Labcore, we have developed flour quality profiles for our numerous products with the dough characterizer." The bakery tests each new flour delivery before production for any discrepancies in quality, so their production team can plan ahead. Wooden Bakery also used their dough characterizer to audit their miller's flour quality, even before the current struggles with material availability. It is not uncommon for a delivery of flour to arrive out-of-spec once in a while. When one of Wooden Bakery's millers was missing their mark frequently, the bakery explained how they assess flour qualities for their specific products with the dough characterizer. The miller got its own measurement equipment and now delivers flour with the datasheet of values. The two can now compare results. "It is as if we are speaking a new language together, which has greatly helped our relationship and productivity with this miller," Bitar said.

Now, with the current wheat and flour market, Wooden Bakery is using the instrument less to audit flour deliveries and more to arm their producers with the information they need to adjust their process. With each delivery of flour, Wooden Bakery runs a sample through the dough characterizer; based on the data curve, the production team can make immediate tweaks to their recipe, using the dough



In minutes, the Mixolab 2 dough characterization tool can profile a flour sample's water absorption capacity, mixing behavior, and amylase activity

characterizer again to assess how introducing enzymes and other ingredients to the formula can help them reach their target product profile. This effort ensures that each delivery of flour, of various quality levels, can be used in production.

"We are not currently in a position where we can reject flour from our suppliers, but this technology helps us obtain a baseline for flour quality. Then we can use improvers to help us reach our product specifications, which we can transfer to production," says Bitar.

In this way, Wooden Bakery can continue providing top-quality products under any circumstances. In essence, the bakery's adaptability and resilience embody the people of Lebanon, whose pride and dedication to baking as a craft and their consumers knows no bounds. +++